MONITOR WELL PRE-SPUD PROPOSAL

1) WELL NAME/NUMBER: ST-4 (Deep)

2) PROPOSED LOCATION: (a) General (on or off-site) Off-site
(attach map) Site Area State Land Section
(b) Sect 32 Twnshp 20S Rng 3E SW ¼ SE ¼ NE ¼ NW¼

3) WELL PARAMETERS:
(a) Est. total depth 730 (ft) (b) Est. ground elevation 4,430 ft
(c) Anticipated stratigraphy:
Alluvium (Santa Fe Group) from 0 ' to 650 ' (depth)
Bedrock (Tuff) from 650 ' to TD ' (depth)
(d) Anticipated water bearing horizon(s):
Alluvium (Santa Fe Group) at 475 ' (depth)
Bedrock (Tuff) at 650 ' (depth)
(e) Anticipated static water level 423 ' (depth)

4) WELL PURPOSE/JUSTIFICATION (attach maps and table if needed):
To determine groundwater quality in the bedrock aquifer in the State Land Section.
Location is within the Western Boundary Fault zone.

5) PROPOSED DRILLING PARAMETERS:
(a) Drilling method(s): (air/foam/mud rotary/auger/etc.)
Mud Rotary from 0 ' to 80 ' (depth)
Air Foam Rotary from 80 ' to TD ' (depth)

Air-foam method: "Quik-Foam" surfactant/water mixture used in conjunction with filtered compressed air.

Mud-rotary method: Bentonite mud/water mixture.

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(b) Lithology sampling - collect sample every:

5' intervals Method Grab from 0 ' to TD ' (depth)
Core type 6" Dennison from ' to ' (depth)
2" Christiansen from ' to ' (depth)

(c) Anticipated drilling additive(s): EZ-mud

7) PROPOSED WELL COMPLETION DESIGN/MATERIALS

(a)

Casing:	Material	Diameter	From	To	Comments
Temporary					
Surface		10"	0	100' max	
Screen (10')	Stainless ++	4"	**		0.02"
Completion Pipe	stainless +	4"	0	TD	*

Standard material: Blank riser, silt trap, locking cap

N/A Data not available at this time
* for deep completions (450 feet or more)
** to be determined from geophysical logs
\+ Type 304, Schedule 5 stainless steel (0-400')
Type 304, Schedule 10 stainless steel(400'-TD)
++ Regular strength screen, extra strength screen used below 450 feet

(b) Filter pack: Standard 8/20 and 16/40 sand and bentonite plug(s), grout to surface.

8) PROPOSED WELL DEVELOPMENT

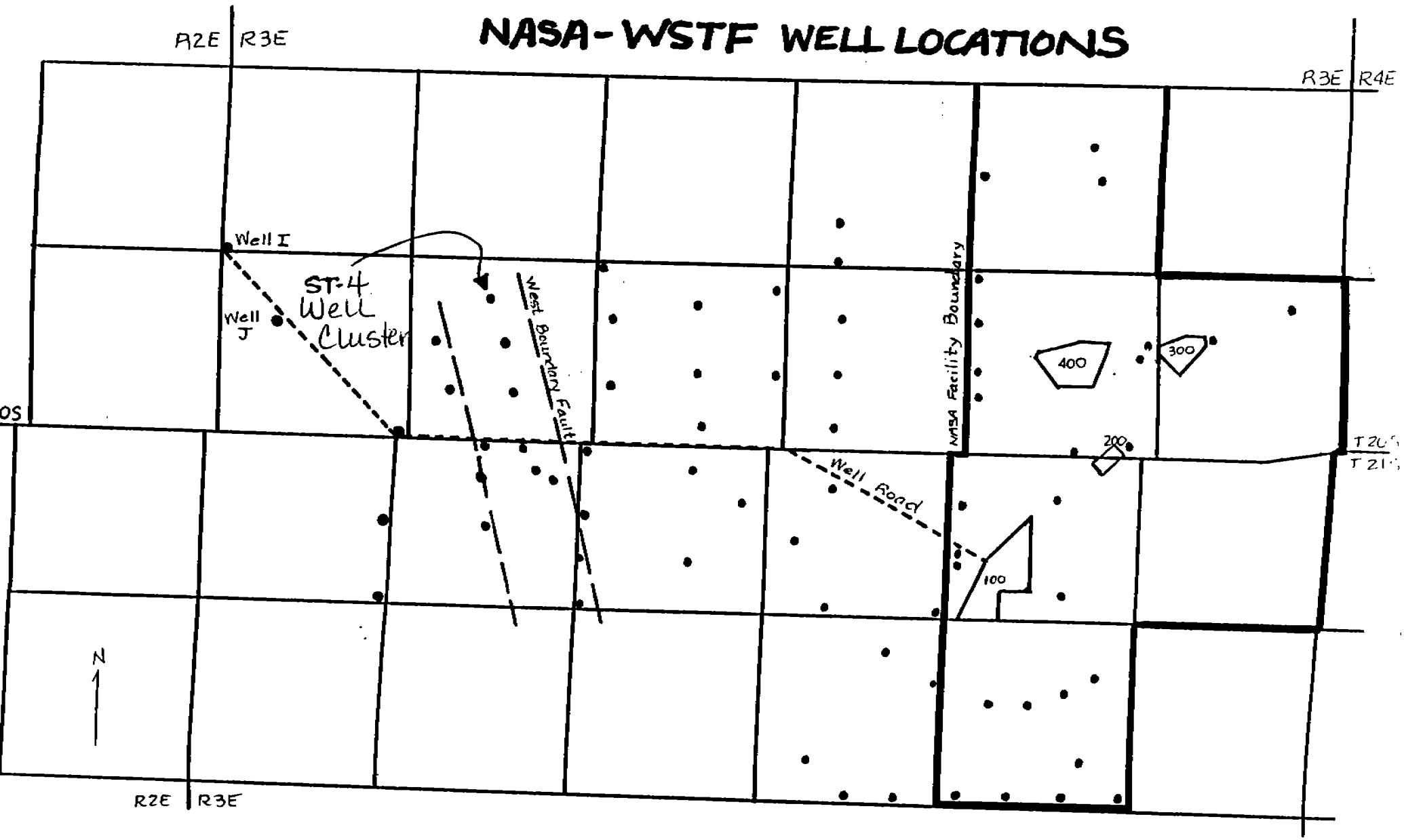
(a) Surge and bail with surge block and bailer.

(b) Pump with submersible pump until parameters stabilize.

9) WELL AUTHORIZATION

(a) Proposed by Geoscience Consultants, Ltd.

(b) Authorized William E. Waldrip (name) NASA (representing) W. E. Waldrip (signature)


NASA-WSTF WELL LOCATIONS
R2E
R3E
R3E
R4E
Well I
Well J
ST-4 Well Cluster
West Boundary Fault
NASA Facility Boundary
400
300
200
100
Well Road
T20
T21
N
R2E
R3E